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ABSTRACT

Despite the ready admission of historians of the subject that "education" encompasses far more than schools, families, churches, apprenticeships, and other institutions there is no reliable, general account of why schools, especially "academically" oriented ones, have become so cardinal to the U.S. way of life. This paper argues that credentialing, not education, explains the prominence of the school on the U.S. social-cultural landscape. The paper contends that, in many parts of the world, the workplace remains an unambiguous place of learning, and finds that Germany is among the most interesting, for German shops, factories, and offices do not function as education and training sites in the absence of schools, but as explicit, historically constructed alternatives to schools. Whatever the German educational system's relative merits, however, its great advantage, for the purpose of this paper, is the way its evolution and operation problematize received historiographic accounts of U.S. educational development. The paper states that German educational practice makes it clear that the U.S. propensity to identify education with schooling is not universal. The paper asks why vocational education in the U.S. context has been so ineffectual. It suggests that what counts as education in a society is less a product of where or how it is acquired than of the institutions that define and document it. Contains a table of data and a 60 references. (BT)

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"Work, Schools, Educational Governance, and the State: German Vocationalism and the Recasting of American Educational History"

Prepared for the Annual Meeting of the American Educational Research Association in Montreal, Canada, April 22, 1999

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Work, Schools, Educational Governance, and the State: German Vocationalism and the Recasting of American Educational History

by Hal Hansen

Despite the ready admission of historians of the subject that "education" encompasses far more than schools — families, churches, apprenticeships, and other institutions — there is no reliable, general account of *why* schools, especially "academically" oriented ones, have become so cardinal to the American way of life. Libraries are filled with tomes on the historical development, content, organization, consequences, and ideologies of schooling. They chronicle how one prototype or another came to predominate over contending, allegedly more democratic, less bureaucratic ones. This is, however, essentially an insider's view of educational history, one that reduces the history of education to the rise and development of schools. Unfortunately, it is an approach that distorts the historical record in a way that gives a false sense of what education is, how it has been acquired in the past, and what it might become in the future.

In the essay that follows, I argue that credentialing – not education – explains the prominence of the school on the American social-cultural landscape. No meek prisoner of the schoolroom, learning occurs naturally and often unintentionally in a multitude of settings: at home, through play, in casual conversations with acquaintances and friends, and at work. Indeed, the conflation of school-going with learning is ahistorical insofar as universal schooling beyond sixth grade, even in the US, is a product of the 20th century. Less than seven percent of all seventeen-year-old Americans at the turn of the century graduated from high school, and not even a third of the cohort that entered public schools in 1911 finished eighth grade (Krug, 1964). Prior to that, the vast majority of young Americans acquired education and training at and through work.

In many parts of the world, the workplace remains an unambiguous place of learning. Of these, Germany is among the most interesting, for German shops, factories, and offices do not function as education and training sites in the absence of schools. They do so as explicit, historically constructed alternatives to schools. Today, some seventy percent of all German youth undertake a firm-based apprenticeship (Muench, 1992). Moreover, this process not only prepares the young for work, it also qualifies them for further education and training. That schooling is not the only way to educate, train, socialize, and certify persons within industrializing, industrial, and even advanced industrial societies is an important insight for educational policymakers everywhere – particularly in view of the influence of American schooling models and missions on educational policy elsewhere.

Certification is key to understanding modern educational state building because so much of what we do in a modern society depends upon our capacity to document knowledge and skill. At the same time, how this process is organized and implemented varies greatly across societies. These differences are far more significant than is generally supposed. This is because how a society certifies knowledge and skill determines for its members what education is (or more accurately, what kind of education "counts"), who gets access to it, and the procedure through which the social division of labor crystallizes and is legitimized. When all is said and done, schooling matters so much in the United States because it is the only widely recognized way Americans have to document what they know. It is hardly the only means by which American acquire education.

Analogously, Germans owe their explicitly vocational, apprenticeship based system of secondary education and training less to the distinctiveness of the learning that takes place in their

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workplaces than to the complex, non-academic system of knowledge and skills *certification* that undergirds it. The emergence, institutionalization, and extension of this certification system over the course of the 19th and 20th centuries has been overlooked – or at least, seriously downplayed – by German historians because they have generally assumed apprenticeship to be another of those alleged "relicts" of Germany's pre-industrial past that reflected its social-political "backwardness." This view of German educational history has persisted despite a building literature on the system's social and economic advantages (Streeck, 1992; Soskice, 1991; Finegold, 1992; Boyer, 1995).

Germany's modern system of vocational education and training is certainly not without shortcomings. Working class children, for instance, have historically had relatively limited access to the elite secondary schooling requisite for university admittance – a problem addressed only after 1945. Whatever the German educational system's relative merits, however, and I stress that these are numerous, its great advantage for the purposes of this essay is the way its evolution and operation problematize received historiographic accounts of American educational development. German educational practice makes it clear that the American propensity to identify education with schooling is not universal. Further, it provokes one to ask why vocational education in the American context has been so ineffectual. Finally, it suggests that what counts as education in a society is less a product of where or how it is acquired than of the institutions that define and document it.

I. Work, Schools, Education, and the Conventional Historiographic Wisdom:

It would be difficult to exaggerate the importance of work to the education, training, and socialization of the young. Yet it has become commonplace among scholars and academically trained educators on both sides of the Atlantic to undervalue its role. American historians of education, in particular, have treated "vocationalism" in the schools as a perversion of early American educational ideals (Wangra). Assuming vocational instruction to be an inherently inferior form of education, they have typically considered it a form of "class based" instruction promoted by a narrow-minded, highly self-interested business class intent on turning out submissive, obedient workers. (Spring; Tyack 1974; Bowles & Gintis; Katz 1987). By embracing the insider's preoccupation with the school, however, they have generally missed the far more significant fact that the institutionalization of mass secondary schooling in the United States redirected the vast majority of young Americans from a highly utilitarian, informally organized system of vocational education and training at work into a culturally oriented academic system of education and training in schools. What matters most for educational history in the broadest sense is not how the expansion and intensification of mass education transformed the school, but rather how it affected the education and training of the average child.

German historians of education, in contrast, have tended to stress how inherited traditions and reactionary politics combined in the late 19th century to prevent what they have generally regarded as a "modern" transition to full-time secondary education in schools. This view of German educational history and training practices grew out of the influential work of Hans Rosenberg (1943, 1967), Ralf Dahrendorf (1967), Hans-Ulrich Wehler (1973), Heinrich Winkler (1972), Shulamit Volkov (1978) and others who stressed Germany's "failure" to undergo a liberal democratic revolution characteristic of other western states — a departure they identified with a German *Sonderweg*, or special developmental path. The work of these scholars located the legislative roots of Germany's modern training practices within a system of political protections that a conservative political elite granted to economically hard-pressed artisans and tradespeople in exchange for their loyalty to the state in its struggle against Social Democracy. In their preoccupation with the continuities of inherited institutional forms, however, these scholars paid little attention to regional social-institutional diversity within Germany, the details of the centerpiece of this legislation — the

Handicraft Law of 1897 — or the way in which the old institutional structures and practices were transformed over time. This reading of these events overlooks the market conforming, liberal aims of the legislation's drafters and its effects (Hansen).

There is nothing coincidental about the fact that the harshest critics of each country's particular brand of educational vocationalism have been academics and professional educators. After all, these individuals have been schooled and socialized to value *Bildung* over *Ausbildung*, or what Americans would call "liberal education" over mere "training." While this is a distinction both Germans and Americans widely take for granted, it is in many ways a rather artificial bifurcation of a common process — learning — into high and low status categories (Raizen; Lave and Wenger). Moreover, it is one etiologically linked to an historically powerful connection between leisure and social status. Whereas the notion of a liberal education embodies the genteel ideal of leisured learning "for its own sake," training denotes a form of learning linked to practical, utilitarian goals. In fact, "liberal" in this context literally derives from the Latin word for "gentleman." Yet it turns out that in actual practice, however much scholars and educators have stressed the developmental and civic goals of education, what gave (and continues to give) academic instruction its luster to the great majority of its clients and their parents was its instrumental value in assuring passage into the ranks of the professional, or at least, white collar middle class (Kantor; Hansen).

The strength and popularity of vocational education, training, and certification practices in Germany issue from their effectiveness. Consequently, employers and workers developed a mutual interest in them. This promoted, with the aid of state mediation, the development of a complex system of governance that directly linked vocational programs and certificates to the economy. Analogously, the weakness and low status of vocational education programs in the US derived from their conspicuous record of mediocrity. By subordinating these to the academically oriented system of secondary schooling already in place, Americans relegated them to marginality. Cut off from the workplaces and communities of practice in which vocations take shape and are plied, vocational education did not function effectively.

What proved key to the two countries' divergent education and training practices were the institutions and people who governed them. Since organized groups of employers, unions, state officials, and educators came to administer Germany's "dual system" – "dual" because public sector vocational schooling supplements private sector apprenticeships – Germans developed a well regulated, vocationally oriented method of secondary education for the majority of their youth. In the United States, in contrast, professionally organized educators, school administrators, and researchers, closely tied to universities and their associations, came to dominate American education, above all the high school. As a result, American secondary education quite naturally assumed an increasingly academic cast. This is not, of course, to say that American high schools became particularly academic in practice. On the contrary, their comprehensive organization constantly forced school men and women to moderate academic rigor in the interest of equity and personal sanity. Nevertheless, "academic" courses grew to dominate the American high school because teachers, students, and their parents understood that, when it came to getting ahead in the world, these were the courses that "counted."

II. The Institutionalization of Vocational Education, Training, and Certification in Germany:

Apprenticeship: As practiced in the early modern period, apprenticeship functioned as the equivalent of a juvenile labor market in the absence of wage labor. Since food, shelter, and heat consumed the lion's share of household income before 1800, apprenticeship represented an exchange of labor for lodging and sustenance – one that, in the absence of money, took place in the

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master's home. Training was an incidental byproduct of productive labor, which was in turn the chief object of apprenticeship. However, since wage labor proved far more flexible and attractive than traditional practice to master and apprentice alike, apprenticeship declined rapidly when wage labor appeared (Hansen).

In the presence of wages, the only possible justification of apprenticeship was training. It offered individuals without the means to pay for training a way to acquire it. An exchange of training for unpaid labor, however, complicated the traditional tradeoff. Masters were tempted to skimp on training and to keep apprentices occupied on tasks they had already mastered. Apprentices, for their part, had a high incentive to abscond as soon as they had mastered a fungible range of skills.

Systematic training of the kind that came to characterize German practice was especially troublesome, for it seriously exacerbated the collective action problems surrounding the exchange. When apprenticeship worked properly, training was most intense during the first two years, when apprentices produced little and knew less. Masters expected to recoup these investments in the final year of the exchange, when the apprentices' productive labor exceeded their pay. This situation, however, powerfully encouraged apprentices to flee as soon as they had learned enough to qualify for skilled work elsewhere. Masters were thus well-advised to be parsimonious in training, an outcome that benefited no one.

Certification: The ultimate German solution to this predicament was a system of legally recognized occupational licensing based on both practical and written exams. This had several positive consequences for training (Hansen). First, occupational certification effectively forced apprentices to serve out their training terms, for those who failed to do so were barred from the exams. Second, publicly administered exams provided officials and prospective apprentices with information on the quality of training offered by a particular master or firm. Trainers with mediocre records found it hard to recruit trainees. Moreover, when trainers proved themselves incompetent or indifferent, local oversight boards possessed the authority to withdraw the right to train. Third, the certification process set public standards of training that neither trainers nor trainees were at liberty to ignore. This promoted the production of skills. Fourth, public exams forced apprentices to take their training seriously – and to work hard in the schools that grew up to accompany in-firm instruction. Finally, the demand for licensed personnel that quickly ensued created a competition for training spots that rendered many vocational programs highly sought after and selective (Muench 1992).

The upshot was a non-academic system of training and certification that directly linked vocational education and licensure to workplaces and their communities of practice in a way that made these credentials highly reliable indicators of the competencies they certified. Moreover, a system of advanced training and certification was put in place. On the one hand, this consisted of "master training" for individuals who wished to establish a craft firm themselves or sought certification as a craft or industrial trainer. On the other, a system of higher technical institutes grew up into which qualified journeymen could enter as a means to qualify for positions as technicians, supervisors, engineers, and managers. Further, a so-called "second educational path" was eventually established that permitted vocationally educated individuals to reenter the academic system, particularly in engineering, management, and the sciences. These developments extended the work-related certification system in a way that created attractive occupational mobility paths for the vocationally trained.

Certification proved key to the emergence of Germany's modern vocational training system. Historically, however, the crucial challenge was to figure out how to organize and administer it. This was no simple matter.

Governance: The apprenticeship system is presently governed at the national level by the Federal Institute of Vocational Education (Streeck, *et al.*). Much of its real work occurs in the so-called "main committees," comprised of representatives of capital, labor, the federal government, and the federated states. Organized along broad occupational lines, they hammer out national certification and training standards for the 380 legally defined occupations under their jurisdiction (Muench, 1992). These are minimum standards, which training firms and local certification boards are at liberty to exceed.

The technical specifics of these standards are the product of ongoing consultations between unions and employers in the industries concerned. This guarantees that licensed practitioners possess – actually, they generally exceed – the knowledge and skills industry requires. Further, union parity on these committees combines with the high cost of German labor to ensure that standards are set high, since low skilled labor is simply not productive enough to pay for itself. Finally, this arrangement permits continuous updating of occupational profiles and standards.

It is worth stressing that this system of "semipublic" self-government, carried out by the "social partners" (as Germans term capital and labor), has the effect of imposing public responsibilities upon private training firms. Insofar as this obligation is self-imposed, however, it is not particularly onerous. Moreover, as American experience makes clear, no control of the collective action problems that beset training in industry and the trades was possible without some form of public action.

In contrast to firm based training, responsibility for the vocational schooling that accompanies apprenticeship belongs to the several German States. They finance and oversee vocational schools, just as they do regular secondary schools. Here too, however, the social partners participate in decision making through a series of regional industrial, craft, and agricultural certification boards.

These boards are operated under the auspices of regional industrial, craft, and agricultural chambers. Unions have the right to equal representation on the certification boards. Vocational teachers are given voice as well. The boards develop practical and theoretical tests that reflect regional practice and needs. These must, however, meet the minimum occupational standards negotiated at the national level. Further, the boards are responsible for licensing those firms that wish to train, which includes ensuring that they have facilities appropriate for the type of training they agree to do. Finally, while in-firm training expenses are borne by the companies involved, the various chambers bear the cost of administration and oversight. This is facilitated by the fact that all German employers are required by law to join an appropriate chamber. Compulsory dues, in turn, cover these costs.

History: The development and institutionalization of this system stretches from the mid 19th century to the present. Driven by political and social welfare concerns, the German state acted to shore up and reinforce a legally organized artisanal sector. In contrast to the US, where all industrial firms, regardless of size or character, are effectively subject to the same laws (with a few minor exceptions), the German "artisanate" or craft sector operates under a legal code distinct from industry's. The development of a legally distinct craft code reflected the fact that small and middle-sized craft firms operate under a "logic" distinct from large industrial ones. Consequently, it was

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designed to facilitate the collective production of goods and services upon which craft producers depend but are unable to supply for themselves. Educational goods are among the most crucial of these. They include technical and business training, research and development, mechanisms for the collection and diffusion of the latest technological and business information, sources of instruction and advice on financial and legal matters (such as contracts, safety codes, taxes, industrial relations, credit, marketing, business planning), and the like.

A core piece of this legislation came into being in 1897 with the passage of the so-called Handicraft Protection Law. Contrary to what the law's name suggests and historians have commonly assumed, it turns out that this was a progressive self-help initiative designed to orient craft producers to market rather than to protect them from it. The southwestern states, particularly Baden and Württemberg, made crucial contributions to this outcome. These were based on over half a century of southwestern experimentation with bootstrapping policies designed to promote craft production, on which the economies of these states substantially depended. Representatives from the Southwest lobbied for and structured the craft chambers that stood (and still stand) at the center of the legislation's regulatory framework (Hansen).

Furthermore, the southwestern states built a complex system of state funded technical, trades, and industrial continuation schools – forerunners of the modern vocational school – that quickly became an object of emulation by the other German states, particularly Prussia. Subsequently, a theoretical component was added to certification exams and attendance at a part-time industrial continuation schools became obligatory. These developments spread gradually from the Southwest to other parts of the empire.

Two consequences ensued from this legislation. First, since it effectively granted the German artisanate control over training and certification, Germany's emergent unions could not pursue a classic trades union strategy based on the monopolization of skills (Thelen & Kume). Insofar as craft employers did much of the training, labor was in no position to control access to the trades. Consequently Germany's unions gradually embraced an industrial organizational strategy. By the 1920s, they had become leading advocates of industrial training, for they rapidly tired of seeing certified workers from the craft sector move into skilled industrial jobs. These were jobs they wanted their own young recruits in industry to fill (Hansen).

Second, artisanal control of industrial skills certification grew into a central bone of contention between industrial firms – especially in the skill-intensive metalworking and machine building sectors – and the artisanate in the interwar years. (Hansen; Thelen & Kume). Industry had difficulty recruiting first-rate apprentices for their industrial training programs because they lacked the right to certify them. By all accounts, training in these firms was superior to anything craft firms could offer. However, since licensed journeymen from the craft sector could easily find work as skilled workers in either sector, ambitious apprentices sought training in craft firms, the only place to become publicly certified. Industrial firms could issue private certificates, but these depended upon the firm's reputation. Thus, they typically suffered from limited portability.

Consequently, Germany's skill-using industrial employers and its industrial unions had a mutual interest in promoting skill formation and certification. For reasons too complex to detail here, however, the system of training regulation and certification institutionalized in the crafts at the turn of the century were transferred and adapted to industry only under Nazi auspices in the 1930s. Two factors counted heavily here: a shortage of skilled labor, one especially palpable in metalworking as Germany's military buildup began to take hold; and the capacity of the Nazis to weaken labor to the point where it had little effective say in training policy – a point that proved

crucial to large, Ruhr-based industrial employers in particular. Only after the war was labor given parity within the training system.

The essential point for the history of education in Germany is that this system of practical vocational education and licensing kept the education, training, and socialization of the average German youth where it had always been: in the workplace. It accomplished this by formalizing and systematizing what had become an increasingly inappropriate method of informal, unregulated learning. In effect, it transformed a practice – apprenticeship – whose primary function had been to facilitate the productive employment of juvenile labor into a dedicated training relationship. Certification was key. It not only regulated training, but also documented it. In so doing, certification enhanced the value of and increased the demand for training.

It is also important to note how inclusive the elaborate system of educational governance that came to structure Germany's vocational practices proved to be. It gave voice to a broad range of interests throughout German society. In contrast, the rise and institutionalization of secondary education in the United States was accompanied by a progressive narrowing of the groups who had a meaningful voice in it. This was in important respects a product of the structure and development of the American state.

III. The Institutionalization of Vocational Education, Training, and Certification in the US:

Apprenticeship: Much like Germany, apprenticeship was widely practiced in the United States (Rorabaugh). Stretching back to settlement, it effectively played the same role in North America as it had in Germany: a means of redistributing "surplus" juvenile labor at the household level. However, due largely to the wide availability of land and a smaller manufacturing sector, Americans practiced it less extensively than Germans (Hansen).

Moreover, much as happened in Germany, traditional forms of apprenticeship disappeared in the US as paid jobs for juveniles spread. What changed, it is important to reiterate, had less to do with the character of on-the-job learning than with the nature of the employment relationship. Since most trade and industrial skills could be learned gradually through observation, imitation, practice, and occasional assistance from older, more experienced workers, this system proved sufficient, so long as the young had the time and context in which to learn what they needed to know.

In the late 19th century, however, this situation changed dramatically. In fact, part of the impulse to regularize handicraft training in Germany in this period was a crisis in skills brought on by a precipitous growth of the historically skill-intensive metalworking and machine building trades (Hansen; Linton). Not only did the industrial workforce grow by leaps and bounds, it also underwent a dramatic compositional shift out of lower skill manufacturing jobs in textiles, leathers, and woods into the higher skill employment in the metals related trades. The impact of these changes was even greater in the United States than in Germany because the pace of American demographic and industrial expansion was faster.

In response to this skills crunch, which grew acute between 1900 and 1913, dozens of the largest industrial firms in both countries began to experiment with industrial apprenticeship training, founded costly corporation schools, and in general, vastly expanded their training efforts. Very quickly, however, due to the collective action problems outlined above, employers learned that because trained employees either demanded raises or left for more lucrative employment elsewhere, it was better to poach skilled people from other firms than to train. However, when everyone poached and no one trained, the global production of skills declined.

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In the wake of World War I, therefore, American companies decisively altered their recruitment and workforce development policies. First, they abandoned their training programs (Hansen). Second, they expanded the personnel offices that had appeared at the urging of the government during the war (Jacoby). Third, in conjunction with these, they began to recruit a rapidly expanding white collar workforce, increasingly on the basis of school leaving certificates. Finally, thanks to the impressive productivity gains in working metals that accompanied the appearance of mass production and high speed machine tools, blue collar workforce growth slowed in manufacturing. This permitted a return to more traditional, informal forms of on-the-job training. Moreover, the heavy investments in organization and machines that permitted this shift were, in many ways, a product of incremental adjustments by employers to skilled workforce deficits (Hansen).

Certification: Interestingly, this workforce recruitment shift corresponded with when Americans began graduating from high school. Claudia Goldin has shown that secondary school enrollment and graduation rates grew decisively between 1910 and 1940 (Goldin 1998). This growth was especially spectacular outside of the South between 1920 and 1935. Moreover, mass secondary schooling began as a rural phenomenon in agricultural states with high average incomes, located principally in the Far West and Plains States. It then spread decisively to the industrial states of New England and the Mid Atlantic in the late 1920s and early 30s, and subsequently remained relatively stable until the mid 1950s.

A combination of supply and demand forces appear to explain this pattern of schooling. Agricultural states with high incomes had the tax base to support district high schools. And since there was little demand for the labor of children on farms in winter, the opportunity costs of schooling – costs due to lost income – were low. Thus, parents in these states were both willing and able to send their children to school.

In contrast, the opportunity costs of secondary schooling were substantial in industrial states with high average incomes. Consequently, most adolescents who had occasion to work did so. This changed only as juvenile jobs evaporated with the onset of the depression of the early 1930s. While economic historians have emphasized the role of opportunity costs in explaining this pattern of schooling, I would stress that the young also engaged in work as a means to acquire fungible skills and as a pathway to adulthood – as they always had. Thus, in a very real sense, schooling represented a form of remedial education for those who lacked the opportunity to be educated at and through work. At the same time, however, as schools grew in importance as certification agents, young Americans were drawn to them by the employment opportunities public certification of their knowledge and skills offered. In this respect, their experience matched that of German apprentices drawn to the crafts by the public documentation of what they knew and could do.

As the numbers of youths who opted to continue their schooling increased, the premium to high school attendance fell. (Goldin & Katz 1995). Between 1890 and 1910, the ratio of high school graduates to non-graduates grew by only 16 percent. Then between 1910 and 1920, it shot up by 40 percent. Between 1920 and 1930, the rate of change in the ratio accelerated to 50 percent. As this surging supply of high school graduates entered the market for white collar office work, the premiums paid for it in relation to manufacturing jobs fell. The average earnings of a male office worker plunged from 1.7 to 1.1 times those of a male production worker between 1914 and 1926, while the earnings premium for women dropped from 2.1 to 1.5. Obviously, secondary schooling mattered more for women than for men, and they graduated in substantially higher numbers. This differential, it should be noted, was largely a product of the fact that women were systematically excluded from the skilled trades.

The certification function of mass schooling was first institutionalized in white collar occupations for a number of reasons. First, in contrast to most kinds of blue collar work, the skills acquired in secondary schools – especially, high levels of literacy, numeracy, penmanship, self-discipline, and the like – represented general foundational skills that mattered most in white collar work. Second, skills in typing, stenography, business machines, and bookkeeping varied little from office to office. School leaving certificates were thus reasonably accurate indications of the skills they certified. It was quite natural, then, that as white collar employment grew in the 1920s, the demand for high school business and commercial courses proliferated (Licht). Third, as big business abandoned formal in-house training in the early 20s, they moved precipitously to recruit technical, engineering, and managerial personnel from America's burgeoning colleges and universities (Brubacher & Rudy).

It was not long before high school diplomas began to be required in certain skilled blue collar occupations too. In particular, important, new, technologically sophisticated industries such as electrical and transportation machinery, petroleum, and fine chemicals turned to high school graduates not only for technical, clerical, and supervisory personnel, but for production line workers as well. By the early 1930s, unemployed shop-trained machinists wondered with considerable disbelief why big shop employment bureaus were giving systematic preference to their school-certified counterparts (Licht).

Actually, the habit of using school leaving certificates as a proxy for work skills in the absence of better indicators began quite early in the US. When state legislatures did away with what they believed to be "undemocratic" professional licensing laws in the 1830s and 40s, proprietary law and medical schools sprang up across the American landscape. Unable to tell a knowledgeable, experienced lawyer or doctor from a fraud or a quack, Americans turned to diplomas (thus the professional tradition of appointing one's offices with framed diplomas). These, they figured, were better than no information at all (Burrage).

In the long run, Americans turned to diplomas for certifying virtually all skills and occupations. Of course, the mind boggling array of public, private, and proprietary schools, institutes, colleges, and universities that produced them often made it difficult for potential employers and clients to know if they could be trusted. [Illustration from International Correspondence Schools]. Naturally, to the degree the people doing the hiring could supplement diplomas with additional information, they did so, but school certificates grew into threshold qualifications for nearly all non-menial jobs. This, in turn, gave rise to the "Great Training Robbery" literature that questioned the skills acquired in diploma factories and their relevance to the economy (Berg; Collins).

Governance: Governance is an issue of central importance to education, one that is, however, too often overlooked by educational researchers and policymakers. I have already identified governance – especially who governs – as key to explaining the divergence of secondary educational practices in the US and Germany. Germans built an inclusive governance structure for their "dual system" that involved organized groups of employers, unions, teachers, and other state officials. Americans, in contrast, "progressively" restricted the voices engaged in educational governance to a comparatively small group of professionally organized educators, researchers, and policymakers.

I have come to see the development of American educational governance in juxtaposition to German developments. One of the keys to the evolution of Germany's vocational system was the decision made very early on by southwestern Germans to separate their vocational system administratively from their academic secondary and university systems. They witnessed the transformation of Prussia's early Industrial Schools – founded in the 1830s as a form of practical

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craft and industrial uplift – into elite, academically oriented preparatory schools within the space of two decades (Harvey). Pressures to upgrade instruction and selectivity came primarily from the academically trained teaching staff who sought thereby to enhance their working conditions and professional status. In this, they were joined by upper-middle class parents, who wanted elite preparatory schools made available to their children. Baden and Württemberg, in contrast, linked their industrial and trades schools to higher technical institutes rather than to universities, and recruited their teaching staff from among experienced practitioners with supplementary training in a higher technical institute (Haverkamp). This they did to avoid the understandable "academic drift" of institutions staffed and operated by academics.

As Prussia gradually imported southwestern practice from about 1900, however, a struggle ensued within the Prussian government between advocates of culturally oriented schooling and promoters of utilitarian vocational programs. This confrontation came to a head in 1910 when the Ministry of Culture and Education, with the ardent support of the Ministry of War, moved to transfer administration of Prussia's rapidly growing industrial and agricultural continuation schools from the ministries of Trade and Agriculture respectively to the Ministry of Culture and Education (Harvey & Tenorth; Hansen). In effect, culturally-oriented political conservatives within the government wanted control of these schools in order to replace their highly practical curriculum with a more patriotic one – comprised primarily of heavily nationalistic German history, literature, and religion. Though it proved a close call, the culturally oriented conservatives ultimately lost out in this struggle.

The intended target of these efforts – the growth of Social Democracy – the Minister of Trade effectively argued, was unlikely to be affected by a few more hours of patriotic schooling. Moreover, he pointedly observed that similar fare in the elementary schools had failed to have the desired effect. Rather, a bald-faced move to introduce political education into the schools seemed likely to undermine the growing popularity of the schools among the working class. The best way to win workers and struggling artisans over, he argued, was to give them a meaningful stake in society by improving their social-economic position. This was what the industrial continuation schools were striving to do (Hansen).

Less than a decade later, a parallel struggle played out in the US. In contrast to the German outcome, however, just the opposite occurred. After the passage of the National Vocational Education Act in 1917, advocates of independently administered industrial and trades programs waged an uphill battle against an entrenched, culturally oriented educational establishment that fought successfully to defend their professional turf. In every state but Wisconsin, vocational education was subordinated to the system of secondary school administration already in place. Vocational programs were either placed under the auspices of state and local Boards of Education or the same people were named to both these and nominally independent Vocational Education Boards. Like Wisconsin, Massachusetts had originally established independent vocational schools, but a storm of protest orchestrated by vested educational interests forced the state legislature to reverse its initial decision within two years. Consequently, placed under the direction of people who cared little about industrial and trades skills, and knew even less, vocational programs quickly devolved into "lyceums for losers" – holding pens for mostly overage, disruptive male students (Kantor; Hansen).

Much like their German counterparts, advocates of "unitary control" of secondary schooling stressed the political and civic uses of education. Much of this rhetoric has been accepted at face value by historians of these controversies. Two points are however worth making. First, Americanization programs were the practical result of these efforts – a US equivalent of what

German educational conservatives had hoped to achieve. Second, "civics" and "citizenship" took on new meanings in the hands of Progressive educators in this period. In particular, they de-emphasized traditional democratic practices like voting, and slipped easily and often into the language of submission and obedience (Rueben).

The role of organized labor in all of this was important, but far less crucial to educational outcomes than in Germany. In contrast to their German counterparts, America's trades-based labor organizations pursued skill-monopolizing strategies. This made them opponents of public skill formation policies, particularly those they could not control. They were especially wary of employer-sponsored vocational programs which they feared would weaken their bargaining power in the labor market. Thus, they repeatedly sided with educators and their allies against independently organized and financed vocational and trades schools. Better leave vocational programs in the indifferent hands of school men and women. This, union leaders understood, effectively neutralized them as potential sources of industrial and trades skills (Hansen).

Skill monopolization strategies, however, placed America's trades unions in a direct struggle with employers over work organization and skill formation policies. This is not the place to explore the implications of this dynamic in any detail. It is nevertheless important to note that trades union strategies based on workplace control through skill monopolization have proven precarious in the history of industrial capitalism (Thelen & Kume). The US was no exception to this rule. They gave employers high incentives to circumvent skilled labor and, where possible, substitute capital and organization for it (Montgomery). Consequently, firm-based skills formation was contested between capital and labor, and thus remained comparatively fallow terrain in the private sector as well.

In this way and in contrast to German developments, the school system came to dominate both secondary education and occupational licensing. At the same time, its structure proved complex, opaque, and amorphous. Divided into 50 sovereign states in the educational sphere, it manifested a complexity further complicated by partially competing layers of proprietary institutes, community colleges, and the like. Although I cannot attempt a comprehensive description of American educational governance here, I will briefly sketch how the structure and development of the American state shaped educational governance in a way that produced in the schools a distinctly scholastic cast.

History: American educational governance has been shaped at the federal, state, and local levels (Tyack, James, & Benavot: Hansen). The Constitution relegated the federal government to a peripheral role in federal education. The Tenth Amendment assigned all powers not specifically delegated to the national government to the constituent states. Since education was not mentioned in the Constitution, the federal state lacked authority in this domain. Thus it was reduced to influencing educational policy through the disbursement of federal funds targeted for specific projects. Even this power proved limited, however, for "states rights" advocates within Congress systematically prevented government officials from enforcing funding stipulations until after the Civil War.

Until the 1930s, state governments played a minor role in the governance of education as well. Through the middle of the 19th century, public schooling consisted primarily of common schools organized at the school district level. State minimalism was radically reinforced at the state level after mid-century. Between 1864 and 1879, no fewer than 37 states amended their constitutions in an effort to cut back state government. As James Bryce observed, this had much to do with popular disaffection with the character of the political parties that dominated state government, and of the people who ran them (Bryce). State departments of education in the US as a

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whole in 1890 averaged just two persons, including superintendents, meaning just one state official for every 100,000 children enrolled in public school (Tyack 1976). Consequently, to the degree there was government at all during the crucial years of secondary school expansion, it was local. There were no fewer than 126,000 school districts in 1900, compared with only 10,000 incorporated townships, towns, boroughs, villages, counties, and cities in the entire country. This characteristic American administrative particularism, however, created a degree of organizational atomism that had to be overcome.

The problems facing school governance were several (Hansen). First, school districts and municipalities found themselves squeezed between a constantly growing demand for services and an overburdened and increasingly unfair system of property taxation. Consequently, in the wake of the Panic of 1893, hundreds of cities and towns and thousands of school districts slipped into bankruptcy, issuing in two decades of Progressive era administrative reform and restructuring. Among the most important of these reforms was the gradual exclusion of party-based patronage from the schools, which infused virtually every facet of school administration.

Second, middle-class parents became increasingly insistent on a more professional, less iron-fisted teaching corps. Authoritarianism was a product of amateurism within overcrowded, poorly appointed schoolrooms that included large numbers of "overage," troublesome youth. Teachers were poorly paid, had low status, and were hired as much for whom they knew as for what or how much. Turnover was quite high. The average teacher was poorly trained, if at all, and tended – especially in urban school districts – to rule with an iron fist. Neither parents nor children were particularly happy with this state of affairs and brought pressures on local school boards to do something about it.

Third, prior to the 1890s, distinctions among public high schools, private academies and colleges, and proprietary professional and technical schools remained fuzzy and certainly not hierarchically ordered. Indeed, throughout the late 19th century, a competition for students and income played itself out between the so-called "people's colleges" (as the public high schools in many areas were initially considered), private denominational colleges and seminaries, and proprietary technical, law, and medical schools (Herbst).

Only gradually did these various institutions assume their present character and functions. The modern public high school eventually occupied the terrain between the primary schools and a motley system of post-secondary colleges, universities, and institutes. The process though which this functional differentiation took place, however, fundamentally shaped the resulting institutions, their articulation, and their predominate functions.

These pressures elicited a number of responses, which in combination reinforced the academic orientation of the American high school (Hansen). The centerpiece of any meaningful school reform required regulation of a sort that traditional, localistic practices absolutely forestalled. At the heart of the crisis of the 1890s lay a weak and disorganized system of school governance inappropriate to the magnitude, scope, and complexities of the tasks it was newly asked to perform. Among the most important of these was the school's emergent role in the knowledge certification business.

Reform began with the consolidation of school boards and their transformation into "non-partisan" bodies. Between 1893 and 1913, the number of central school board members in the

country's 28 largest cities descended from an average of 21.5 to 10.2 per city, or a 53 percent drop. Big city ward systems fell like a house of cards: New York in 1896, St. Louis in 1897, Toledo in 1898, Rochester in 1900, Boston in 1905, and dozens of others besides. Mean board size fell to eight by 1923 (Tyack 1974). Cities began appointing professional superintendents to administer their schools. Typically, superintendents assumed responsibility for the administration of "academic" affairs, especially the recruitment of teaching staff, the selection of textbooks, the setting of graduation standards, and the like.

These changes served to insulate the schools – particularly their "academic" activities – from party politics. This permitted the development of professional standards of staff recruitment and promotion. Moreover, nonpartisan, consolidated school boards and professional superintendents reassured the public that educational expenditures actually went to education. This was signaled by mounting, sustained educational expansion and spending subsequent to reform.

As the numbers of formally trained school administrators and teachers grew, these groups began to form professional associations to promote their interests. Among the most visible and influential of these was the National Educational Association (NEA). Through these, educators developed their own standards of training, certification, and conduct. Only two states had specialized credentials in 1900. Thirty years later, virtually every state had elaborate teacher certification and training laws. Most of these were direct legislative products of the expert testimony and lobbying efforts of teachers' associations organized at the state level (Tyack 1974). In this way, professional organizations gradually imposed a "professional" order on secondary schooling.

Other structuring forces were at work as well. Privately organized regional accreditation boards proved to be among the most important of these. Expansive colleges and universities – state land grant institutions in particular – had a growing interest in imposing minimum academic standards on the secondary schools from which they recruited students. Administering individual entrance exams to all prospective entrants proved an expensive, daunting undertaking. After the University of Michigan decided to accept all graduates of accredited high schools from within the state, other schools rapidly followed its lead.

Since it was easier and cheaper for all the colleges and universities within an area to band together in an effort to set common accreditation standards and collectively organize school inspections, regional accreditation associations formed. By 1920, the entire US had been organized in this way (Brubacher & Rudy). Since middle class parents in local school districts wanted to ensure that their children had access to higher education, they brought pressure to bear on local school districts to conform to the standards imposed by these associations. Inasmuch as these standards were by definition "college prep," and both teachers and influential parents had a common interest in seeing to it that their high schools were accredited, the entire secondary system increasingly fell under the gravitational pull of higher education.

A number of national committees comprised of prominent educators – including presidents of leading universities – pushed in the same direction. They issued national reports concerned with the role of the secondary schools and their "articulation" with higher education. While it is neither possible nor necessary to recount this history here, it is important to note that these widely publicized reports reinforced the prominence and place of "college preparatory" instruction in the nation's schools (NEA, 1893). Further, they stressed the importance of "civics" in public education and reiterated the conviction that "differentiated" education of a European sort must be avoided at

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all costs. In this way, educational leaders made "unitary control" of the schools into a sacred trust – one that ensured trained professionals would be in a position to look after the welfare of the young (NEA 1918).

Furthermore, the growing prestige of college as a prerequisite for well-paid, high status jobs, particularly the professions, and its alluring attraction as an exciting place to "come of age," increased pressures to make high schools into way stations to higher education. Thanks to the incentive structures that characterized the American high school – and the absence of a system of educational standards that gave students and their parents a realistic idea of how they, or their children, were doing – students who remained in school overwhelmingly aspired to professional and other types of appealing white collar jobs. Study after study from the early 1900s confirmed this. The only problem was that aspirants massively exceeded the number of these types of jobs actually available in the labor market. Consequently, overcoming the wildly unrealistic expectations of students and their parents became a principal function of vocational and educational counseling. It typically became the counselor's role to redirect the educational and occupational ambitions of their clients "downwards" — one junior colleges later came to play as well. (Kantor; Hansen)

In the final analysis, the crucial struggle over vocational education and "unitary" versus "dual" administrative control was really about who would control the schools. It was as much a battle over job property and professional turf as a struggle over educational ideals. American schoolmen and women used to good effect a strategy employed by virtually all American professions: to the extent possible, cloak your interests in those of your clients and the public good. For numerous reasons, many of them mundane, this grandiose vision of American schooling would not, indeed could not, be carried out as envisioned. Yet it has continued to inform debates within the profession, despite nearly a century of experience with its unintended and increasingly onerous effects. Such strongly felt orientations within the profession, however, did not bode well for the reception and implementation of school-based vocational education and training initiatives, as we have seen.

IV. Challenges and Opportunities in the 21st Century:

Americans have been quick to write off differentiated educational systems as "undemocratic" and "class based." Yet in Germany, high levels of educational inequality (measured in years and types of full-time schooling) currently lead to wage spreads nearly half the size of America's [Table 1]. This is in part because its highly differentiated educational system ensures that everyone acquires economically fungible skills, which public education also serves to certify. Moreover, since the German system embodies a more inclusive sense of what education is and how it can be acquired, it provides those who do not particularly excel in academically oriented schools alternative educational paths that either do not exist in the US or tend to be third or fourth rate. Finally, both German employers and workers are pushed towards a "high skill equilibrium" by high "social wages" that mean only the skilled can be put to work since only they are productive enough to justify the high cost of their labor (Finegold).

American educational researchers, particularly sociologists, have been heavily preoccupied with issues of educational access. Yet educational systems like Germany's suggest that an equally – if not more important – question to ask is the effect of national educational regimes (or in economic terms, the distribution of educational goods) on the division of labor within a society. Preoccupied with opportunity issues, American social scientists have spent too little time thinking about how educational systems shape the global distribution of outcomes. It is one that begs our attention, especially in an era of rising, education-linked inequality.

In contrast to Germans, who gradually tied formal vocational education, training, and certification to workplaces and their communities of practice through a complex system of chamber governance, Americans did just the opposite: they shifted the education, training, and socialization of their young from workplaces to full-time schools. As American high schools metamorphosed from elite into mass institutions by opening their doors to the great majority of adolescents for whom the workplace had traditionally served as the central place of learning, they increasingly faced pressures to equip their charges with practical, economically fungible knowledge and skills. High schools had, in fact, always functioned to do this. The problem was that as the student population changed, so did the range of vocational trajectories for which their students were destined. In this way, mass education transformed the schools.

The vocational education and life adjustment movements were logical responses to this reality. However, as this essay suggests, the structure and development of the American state made meaningful accommodation to it difficult. These combined in the late nineteenth century to create a governance vacuum into which an academically trained and socialized group of professionalizing educators moved. This ultimately cut the schools off from the economy and other areas of public policy that proved so integral to German developments. Without these, schools were in no position to provide meaningful vocational education and training. Instead, they took on an increasingly college-oriented, academic orientation.

As American educationalists gradually imposed their high minded but in many ways parochial values and interests on the schools, they acquired the power through the certification function to decide what education was, or at least, what Americans came to think it to mean. At the same time, the school grew increasingly subject to a powerful, rapidly growing, publicly unregulated system of higher education that, for reasons of its own, reinforced these developments. Consequently, American schools increasingly undertook to treat all students as if they were college bound — at a time when a majority of children did not attend, not to mention finish, high school. As a result, the system scarcely functioned as hoped, and a broad range of dysfunctions ensued.

Americans still live with these legacies today. As alluded to at the outset, however, the German system is not without it problems. Moreover, US-German institutional development has been so different, the usefulness of German practice as a model for Americans is limited. What German experience does provide in abundance, however, is a perspective from which to pry open here and there what Weber called the "Iron Cage" of socialization. It gives us a way to see that education is, has been in the past, and can become in the 21st century something more than what we have assumed.

Above all, it draws our attention to the significance of governance for educational systems. It suggests that Americans need to think hard about ways to increase and institutionalize the range of people allotted voice within educational planning and policymaking. Because of the importance of the certification function in all modern systems of education, it highlights the importance of broad regional and national standards of performance for teachers, students, and their schools. This applies equally to so-called "non-traditional" education in the form of cooperative and school-to-work programs, and the like. Further, German institutional developments suggest we need to reflect more on the process through which we negotiate standards and who is involved, and worry less about the standards themselves. Ultimately, any workable system must be continually updated. Finally, it underlines the historic, current, and future role of workplaces as sites of learning –

however odd that may sound to Americans. Vocational education was not the philistine affront to American educational ideals that is often portrayed. Rather it was, is, and will remain a central component of human learning. The challenge for Americans is to build institutions that will (through certification) promote and improve it, and give it its rightful due.

Table 1: Wage Spread (Source: OECD Employment Outlook (Paris: OECD, 1993):

Country	Ninth / Fifth Decile		Fifth / First Decile		Ninth / First Decile		Average Earnings of Workers in Small / Large Firms (% in Small Firms)	CEO / Worker Average Earnings Mfg
	Early 1980s	Early 1990s	Early 1980s	Early 1990s	Early 1980s	Early 1990s		
Germany	1.63	**1.64**	1.63	**1.54**	2.65	**2.53**	**90 (58)**	**10.2**
US	2.16	**2.22**	2.20	**2.50**	4.75	**5.55**	**57 (35)**	**25.8**
Japan	1.63	1.73	1.59	1.63	2.59	2.82	77 (68)	7.8

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